

From the system builders.
The system builders' computer.

Argus700 Series 2.

FERRANTI
Computer Systems

CS03/25/070 11

NEWS IN BRIEF

Jamie for top tournament

JAMIE Gordon, the schoolboy whose chess career Computer Weekly is sponsoring, has been invited to take part in the Lloyds Bank Junior Tournament, August 20 to 28.

Thirteen-year-old Jamie was offered a place in the tournament on the strength of his performance in the London Evening Standard contest, where he won four of the six games he played. He is currently taking part in the British Open Championships in Brighton.

X25 software

SOFTWARE to support direct connection to X25 packet switched networks has been announced for the NCR Contem 3800 range of communications processors, which are offered as direct alternatives to IBM's 370X SNA communications processors.

New divisions

THE motor trade oriented services company, Kalamazoo Business Systems of Northfield, Birmingham, has set up two new sales divisions: one to handle all systems for the motor trade and the other to market Kalamazoo's K2000 and K260 microcomputers.

DP for the masses

A NON-PROFIT educational corporation called the People's Computer Company is joining the Menlo Park Library in a project designed to bring "computer literacy" to the whole of the 27,000 population of Menlo Park in California by using the community centre, schools, and volunteer instructors.

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Jobs for the girls after all . . .

THE effect of office automation on unemployment is likely to be very much less than has been forecast, according to a study carried out by the Equal Opportunities Commission.

The researchers, who had been looking into the significance of microelectronics for women's jobs, have decided that in the short term there will only be a reduction of 2% in copy typists' jobs, while in the longer term by around 1990 the effect will be somewhat greater. Case studies of 10 organisations were carried out by Dr Emma Bird.

Magda Hall and Steve Connell at consultancy Communications Studies and Planning. Where their results differed from previous forecasts was in the number of jobs displaced by each word processor. While white collar union Apex has been assuming each machine displaced one person, Dr Bird and her colleagues found it took three machines to lead to the loss of one typist's job. This was because full productivity gains were only achieved in the relatively small number of cases where typing was organised very efficiently in a central pool.

More often, word processors were being used to free secretaries to do other things. There had been no redundancies in the firms studied. On the basis of current sales trends, Dr Bird estimates there will be 64,000 WP keyboards installed in the UK in 1986. This indicates 21,000 jobs displaced, and these are typists' jobs, not secretaries'. A rough allowance has been made in these figures for growth in the volume of work done, but this may be an underestimation.

By 1990, Dr Bird expects 170,000 units to be installed, and with greater use expertise and better equipment, the displacement ratio may then approach 1:1, she thinks. Particular emphasis has been placed in the study on the nature of jobs in addition to their number. Of 51 word processor operators questioned, 36 said their jobs were more satisfying now than they had been with typewriters.

IBM realigns for office market

REFLECTING the growing interaction between the office and computer businesses, IBM is merging the development and the manufacturing units of its General Systems and Office Products groups in the US into a new Information Systems Division. GSD and OPD sales forces will remain separate entities. IBM's vice-president, manufacturing, Robert Dunlop is to be president of the new division, which will have responsibility worldwide for development, including programming, and for manufacturing in the US.

Money sought

Some way of funding innovation was also being sought. Dr Helmer explained, "Our members are jealous of Japanese government grants, which are given to whole industries." The US Small Business Act was cited as a problem: under this, 50% of the value of US government purchases have to go to small businesses. This would not necessarily work in Europe, Dr Helmer said, but the issue should be considered. Government purchases act in effect as hand-outs.

Davignon already has regular meetings with the heads of large European firms; his commitment to talk with the association in addition to this. The next meeting is scheduled for September.

EEC cash likely for small DP firms

HELP from the EEC for small computer firms trying to compete against US and Japanese firms should soon be forthcoming, following a meeting between Industry Commissioner Vicomte Davignon and officers of the European Independent Informatics Industry Association.

Promotion of standards, money for innovation and review of legal protection, as compared with other countries, are all hoped to flow from further regular meetings which Davignon has agreed to set up.

Keen to help

The association was set up by a group of suppliers of small computers, peripherals and software products to help make their views known to politicians, whose attention tends to be monopolised by the lobbyists of large firms (CW, April 17).

The President, Dr Antonia Helmer of Dutch printer firm Datasystema, told Computer

300-Mbyte drive for PDP and Vax

A 300-megabyte disc drive for PDP 11/70 and Vax 11/780 users has been announced by Digital Equipment in the US. It is also understood to be preparing a smaller Vax 11/580 for launch later this year and two more Vax machines are believed to be in the pipeline.

The 300-megabyte drive, almost doubling the previous biggest disc offered by DEC, is called the RM08 and costs \$44,000 with controller or \$34,000 as an add-on.

The drive is thought to come from Control Data, but DEC will say merely that it is from an "outside source".

The Vax 11/580 is reported to be under test at a user site. It is a two-board system and DEC is also thought to have a single-board version of the 32-bit processor under development, as well as a top-end model above the Vax.

Software straitjacket

What of the System 88 in dealing with object data sets rather than bits or bytes, which can be anything from data segments to tables of data. Texas Instruments has also announced a new generation of high end processors starting with the TMS 9900, designed to operate with a range of firmware modules called the Compact Software Series. It is a range of a real-time executive, a real-time system kernel which acts as a software bus for standard applications, and a range of modules for various applications.

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Computer Systems

Number 721

Thursday, August 28, 1980

Price 20p

More US backing for UK teletext standard

THE UK standard teletext system used in the BBC's Ceefax and the IBA's Oracle service has emerged as the clear favourite for a US teletext standard. The UK system was more votes than the French Antiope or Canadian Teletext systems in the secret ballot of members of a committee set up by the Electronic Industries Association to decide a standard (CW, August 7).

But a spokesman for the Federal Communications Commission, which has the final say on any standard, told Computer Weekly that the Commission was unlikely to set hard and fast teletext standards, merely defining minimum standards covering things like interference.

The spokesman for the Commission's broadcast bureau said that it was setting a framework from over-regulation. "We're rather let the market fight it out. Some of our standards have been wrong in the past, such as when we set a colour TV standard with signals which could not be accepted by monochrome sets."

One member of the EIA committee with a different view for Antiope is the CBS network.

UK nervous as word processing slumps in States

by Rory Johnston

MAJOR cutbacks in staff at two US word processing suppliers are raising fears that the recession is going to affect seriously this hitherto booming business. Several UK suppliers are finding sales considerably slower than a few months ago, but at the same time several companies report increased sales and little slackening in interest from customers.

Briefing Prizes for programmers

YOUNG programmers can win \$400 for themselves and \$1,000 worth of equipment for their school or college in a national competition organised by Barclays Bank and the University of Kent with the idea of fostering British talent for good quality software.

Competitors have to design and write a computer program which has a practical application. There are two classes, under 18 and under 19, and the winning student in each category will get a Kent Software trophy and the cash prize. Closing date for entries is February 28, 1981.

Apple floats

CAUGHT by a US Federal law which says that a company with over \$1 million in assets or 600 employees has to go public, Apple Computer has had to bring forward its offer of stock to the public. Sales at Apple are expected to exceed \$160 million this year and to double in 1981. The \$25 million of stock to be offered by the underwriters, Morgan Stanley.

First chairman

URPA, the European Information Providers Association (CW, December 22, 1979) is now formally constituted and has appointed its first chairman. The Dutch publishing company, Elsevier NDU, Surpans, which includes publishers, database services, and data operators.

Rate for PD?

WHAT is the computer-based rate for front control? The answer is that Post Office is considering a rate for the all-in-one terminal, which includes the computer, the terminal, and the printer. The rate is expected to be around £100 per month.

Comfortable

Jacquard's cutbacks follow the closing down of its UK direct sales network (CW, June 12). Nevertheless, David Lee of Jacquard UK affirms that the company here is getting "a comfortable amount of business" now. Other suppliers in the UK are getting noticeably fewer enquiries, with salesmen taking a

Adapso warns on Burroughs \$98m buy

THE acquisition by Burroughs of one of the largest US systems houses and bureaux, Systems Development Corp, has now been agreed by the two parties, giving the Detroit-based manufacturer a broadly-based software development capability and a services operation to compete with those offered by Control Data and IBM (CW, August 21). Under the deal, which has to be approved by SDIC's shareholders, Burroughs will pay \$98 a share, a total of \$98 million.

SDC, which had a nine-month turnover of \$118,519,000 for the period up to March 1980, is best known for its specialise work in the online scientific information service, and newspaper production systems. A large and ambitious version of the Burroughs system is being installed at the University of London and has been used by SDIC's considerable database services and data operators.

Price of a word
USERS who want to add their own personal words to the standard 373 word set offered with Texan Instruments' voice synthesiser products can get the company to do it for them - at \$775 to \$1,000 - or an extra word in ROM costs \$200.

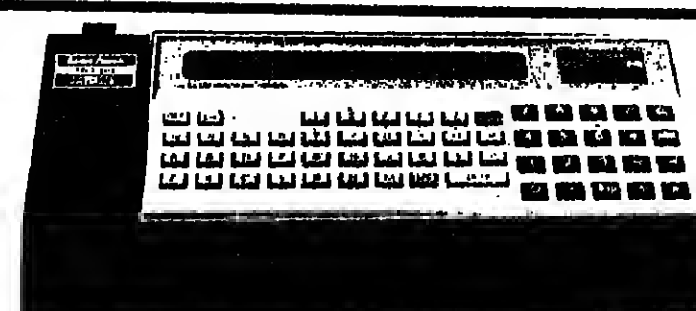
Divided
The 8775 is driven by a Motorola 6800 microprocessor and has a series of features which can be divided into two main groups: control logic up to eight separately programmable gates. Once allocated to a sector, the

long as they operated on a basis of "maximum separation" - that is, they do not compete unfairly by getting subsidies and offering cut rates on hardware and software combined.

The trend in the business now, Dryer said, was to look at information rather than equipment.

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SPOT THE DIFFERENCE...

The striking resemblance between Tandy's TRS-80 pocket computer and Sharp's PC211 is not only attributed to the fact that they are basically the same. The Japanese company has agreed to manufacture its PC211 with multiload facilities for Tandy, even though it will continue making its own version. Eight software packages are currently under development by Tandy in the US to be released in October. They will be written in Basic to fit the 1.4K-bytes available, packaged in cassette. The cost, between £8 and £14. The Tandy model is pictured above; the Sharp below.



IBM frees 8775 to fight the 3270

THE powerful IBM 8775 display terminal, announced with the 8100 remote processing system (CW, October 12, 1978) is now offered with SDLC support as an alternative to 3270s on IBM 370, 303X and 4300 series machines.

IBM has also announced that the SDLC loop, used for connecting 3600, 3640, 3650 and 3680 SNA function terminals to their controllers - and for attaching 8775 to 8100 - is now available on the 4331.

The 4331 includes an integral 3705 processor for running the SNA Network Control Program, and the availability of the loop adaptor means that the 4331 could be used to support 3600 banking terminals in a one branch bank, or as an in-store computer supporting 3680 chain stores, or 3680 supermarket non-food terminals.

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Tory MP backs ECR import controls

IMPORT controls on electronic cash registers imported from Japan are being demanded by the unions involved with Chubb Cash, the Brighton-based ECR builder where staff are on short time.

The Conservative MP for Brighton Kemptown, Andrew Bowden, has promised the unions that he will put pressure on Trade Secretary John Nott to stop the import flood of Japanese ECRs.

But Chubb Cash sales director James Anderson told Computer Weekly that the new redesigned low cost ECRs promised two years ago (CW, July 8, 1978) would be launched "within the next couple of months" and that they would be built at Brighton.

Chris Dark, national organiser of FASS, the white collar worker section of the Amalgamated Union of Engineering Workers, said he was shocked that a decision to close the Brighton plant appeared to have been made despite assurances by management that no state-ment would be made without prior consultation with workers.

The Brighton operation was taken over by Chubb in late 1978 from Gross Cash Registers and remained Chubb Cash at a time when it had already been in severe financial difficulties for several years. In 1977, 420 people were made redundant.

According to James Anderson the new ECRs will be a development of the existing range but will incorporate a lot of changes.

New from Cifer... ...the 2684 User Programmable Terminal

Introducing the Cifer 2684 User programmable terminal, the top of the line of the 2600 range of compatible VDU's. The 2684 has full 64K bytes of user RAM, supporting industry standard operating system with in built 260K byte floppy disc drive.

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Test no 110

PAGE SIX for programmers and analysts

Filling jobs from untapped sources

WE all know the industry is short-staffed. We have all read of the urgent need for skilled people to do programming and analysis work. We also know that training does not fit the bill, even if they have put in their time doing a TOPS or any other kind of course.

Industry needs people quickly with certain specific skills. Those who have been trained in Cobol or Basic may be very good and probably think that they are competent programmers, but employers don't want to spend time and money "retraining" these people and teaching them the skills required to do the work they need.

So where do they go? A recent US report draws attention to companies over there who are experimenting in recruitment. They are taking staff from previously untapped sources; something the UK's Manpower Services Commission urges us to do in this country if we are to solve the great computer staff shortage.

Strangely enough, the groups of people that the US companies have already looked at on this page, and asked why they were not given a greater chance.

They include the disabled, part-time workers, and the housebound. The Wells Fargo Bank in California has 35 disabled staff working in its DP operations.

Most of these employees are severely disabled; that is blind, mentally retarded, deaf, autistic, and those suffering from severe speech defects.

Success

The bank claims that its recruitment policy has been great success, to the extent that other employees of the bank have started taking sign language classes.

All employees have a career path mapped out for them when they start, so they don't fall into a "dead end" job, as do many disabled people once they have found employment.

Employing the disabled has been the policy of the bank for seven years and it maintains that the staff are industrious, efficient, loyal, and good workmates.

Another policy adopted in the US is that of taking trainees from school rather than university. The problem of being undertrained is nowhere near as great as if they were trained in inappropriate skills.

Potentially, school leavers who have studied some computer science and programming in school have the background and usually the interest to make good DP staff.

This group, of course, is taken on with the eye to the future and cannot solve immediate shortages. A number of people however, particularly women but also house-bound men or one-parent families of either sex, are fully trained programmers but are simply unable to leave the house for long periods, and go out to work.

Several working arrangements can be conceived to tap this valuable resource of talent, including either working entirely at home or working on-site but with flexible hours.

A housewife might want to work only during those hours when her children are at school, or when they can be looked after by someone else.

Alternatively she may, because of smaller children, be unable to leave the house at all. In this case she could be supplied with a terminal in the home.

These are just three specific groups of people who could make the staffing problem a little lighter. The trouble seems to lie with the employer, not the employee.

In many cases he is frightened of taking on staff through unconventional means and continues to advertise and look for the stereotypical programmer, with three years' experience.

When are employers going to wake up to the situation and realise that if they want a job done, they will have to widen their horizons, or not get it done at all?

Convenient

F International, founded by Mrs Steve Shirley, has been using these people for some years in a very successful and highly regarded company.

There are many occasions where an employee is forced to leave work for some reason. Surely they could continue to do some useful work at home, or even put in a few hours a week on-site at mutually convenient times?

For this kind of work, employment is generally contracted on a project basis rather than a work-hour basis, which makes it easy for someone who has other commitments to fit the work in when possible.

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Mrs Steve Shirley of F International has been successfully using housewives for programming for years.

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SOFTWARE FILE

ICL takes account of user demands on Data Dictionary

THE problems that ICL faces with demand for new software from users of its older products has surfaced again, this time in connection with the Data Dictionary System, DDS. And this time, ICL is on the way to meeting most of the demands.

The dictionary, which is used with the IDMS database management system, was written from scratch and has been available under VME/B for three years and under VME/K for six months.

Members of the DDS User Group are now clamouring for it to be available under all ICL's other supported operating systems.

The answer from ICL is that the DDS will be supported under JME on the ME20, and under the 1900 George operating system both native and under DME, by the end of the year.

However, nothing is planned for System 4 users, led by the Post Office, who want under J and Multijob, or for 2803/4 or System Ten users.

The DDS User Group has published a report of its proceedings, and this opens with a list of 54 actions ICL wants to take on DDS, among them the call for support on the older ICL hardware. It says that by the end of last year, 12 had been implemented or acted upon.

The report highlights the value of DDS as a conversion aid, and says that users and potential users should be made aware of this benefit.

"The dictionary can be used to monitor a conversion exercise and to document the changes

made during the exercise," says. "At the end of a conversion exercise, the dictionary contains full documentation of the converted system. It is used to outline the report, and it serves as a useful base for further development."

The report contains a wealth of valuable user experience, DDS, including case studies from the Ministry of Defence, Crisp Inventory Control project, and at West Midlands Civil Aviation.

West Midlands Civil Aviation is particularly enthusiastic in its endorsement. "We found that the DDS offers an excellent basis for storage and retrieval of computer design and programming documentation. It has proved to be reliable in use and performance has not been a problem."

The product's forerunner, Reliance I, was launched 18 months ago, pulling together the Cobol, transaction processing and database software for Perkin-Elmer's 32-bit "superminis".

Reliance II is a more ambitious project, with word processing facilities and an associated query language (Q32). It represents PEDS' first major push to win a commercial market for its machines, and a departure from its traditional scientific user-base.

Like all PEDS' software products, it is written in the UK where PEDS devotes a team of 50 to Reliance development.

As well as being a development tool, Reliance is used at PEDS for secretarial jobs, documentation such as printing manuals, for managerial tasks such as forecasting, and in finding new applications all the time. The receptionist will soon be using it to trace the availability of pool cars.

"In everything we do we use our own tools," said Waters, "and we're the most critical audience of our own product that we have. If we find a need for something, then so will the rest of our users."

The typical target of the product is the large company or systems house using Cobol, with a need to produce applications software as well as running a database and controlling transactions.

PEDS is entering a market which is awaking the IBM System 38, and lamenting Trax, Digital Equipment's transaction processing software. Trax's poor performance on PDP-11s led to complaints by users and a new

marketed by a distributor in the US.

More recent versions of the operating system have appeared on Honeywell Level 6 minicomputers. Assembled by Ultimate Corp, they are marketed in the UK as the Ultimate system by Universal Computers and RDP Ltd.

In the US, Pick is rewriting the operating system for the Zilog Z8000 16-bit microprocessor on behalf of Applied Digital Data Systems, ADDS.

ADDS is the subject of a takeover bid by Mitec Corp of Canada. CMC-UK is wholly owned by Microdata, in turn wholly owned by McDonnell Douglas Corp.

CMC-UK has no connection with CMC Europe, which is now owned by Rediffusion, parent of Rediffon. CMC's US assets and base were acquired by Persee, now owned by Triumph-Adler of West Germany.

Microdata sells it in the UK through CMC UK, a company it acquired after the original US Computer Machinery Company was destroyed.

Microdata licensed its early minicomputer for manufacture by Intertronic in France. Intertronic developed Reliance, a French account. Reliance has developed it further.

Intertronic has no connection with Microdata, but one of its minis, with the Reliance operating system, are

words that generate models and graphs; PEP claims that two days' training is sufficient for efficient use of the package.

The package already has over 300 in-house users in the US and is available on a range of hardware, including Honeywell, Digital Equipment, Prime, Hewlett-Packard and Harris.

For RING Brospa Data ADDS VIDEO'S READING 589393

'Writers of the software should use it'

WALK into Perkin-Elmer Data Systems' office in Slough and you will find that the girl at the reception desk has a terminal within reach — as do the secretaries upstairs, the managers, and the director of the European Software Development Group, Dr. Morin Waters.

They are all using Reliance II, Perkin-Elmer's venture into software launched at the NCC in the US earlier this year.

"I just refused to sit down with a hand held calculator to work out another year's budget," explained Waters, "and I believe that the people who write the software should use it."

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"I just refused to sit down with a hand held calculator to work out another year's budget," explained Waters, "and I believe that the people who write the software should use it."

The product's forerunner, Reliance I, was launched 18 months ago, pulling together the Cobol, transaction processing and database software for Perkin-Elmer's 32-bit "superminis".

Reliance II is a more ambitious project, with word processing facilities and an associated query language (Q32). It represents PEDS' first major push to win a commercial market for its machines, and a departure from its traditional scientific user-base.

Like all PEDS' software products, it is written in the UK where PEDS devotes a team of 50 to Reliance development.

As well as being a development tool, Reliance is used at PEDS for secretarial jobs, documentation such as printing manuals, for managerial tasks such as forecasting, and in finding new applications all the time. The receptionist will soon be using it to trace the availability of pool cars.

"In everything we do we use our own tools," said Waters, "and we're the most critical audience of our own product that we have. If we find a need for something, then so will the rest of our users."

The typical target of the product is the large company or systems house using Cobol, with a need to produce applications software as well as running a database and controlling transactions.

PEDS is entering a market which is awaking the IBM System 38, and lamenting Trax, Digital Equipment's transaction processing software. Trax's poor performance on PDP-11s led to complaints by users and a new

marketed by a distributor in the US.

More recent versions of the operating system have appeared on Honeywell Level 6 minicomputers. Assembled by Ultimate Corp, they are marketed in the UK as the Ultimate system by Universal Computers and RDP Ltd.

In the US, Pick is rewriting the operating system for the Zilog Z8000 16-bit microprocessor on behalf of Applied Digital Data Systems, ADDS.

ADDS is the subject of a takeover bid by Mitec Corp of Canada. CMC-UK is wholly owned by Microdata, in turn wholly owned by McDonnell Douglas Corp.

CMC-UK has no connection with CMC Europe, which is now owned by Rediffusion, parent of Rediffon. CMC's US assets and base were acquired by Persee, now owned by Triumph-Adler of West Germany.

Microdata sells it in the UK through CMC UK, a company it acquired after the original US Computer Machinery Company was destroyed.

Microdata licensed its early minicomputer for manufacture by Intertronic in France. Intertronic developed Reliance, a French account. Reliance has developed it further.

Intertronic has no connection with Microdata, but one of its minis, with the Reliance operating system, are

words that generate models and graphs; PEP claims that two days' training is sufficient for efficient use of the package.

The package already has over 300 in-house users in the US and is available on a range of hardware, including Honeywell, Digital Equipment, Prime, Hewlett-Packard and Harris.

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Unix micro version for 20th of price

A MICROCOMPUTER version of the Unix operating system which costs about a twentieth of the price asked by the system's originators, Western Electric, has been developed by a company in Chicago, Mark Williams.

Written in the Unix language "C", the Mark Williams system, called Coherent, at present works on Digital Equipment PDP 11-34s, and machines based on Intel 8086, Zilog 8000 and Motorola 6800 micros.

Further plans include a version for the Digital Equipment Vax machine, and mainframe versions for IBM 370 and lookalikes.

PEOPLE and EVENTS

Top sales executive wins trip to Bahamas

SALESMAN Bill Banyon has won a five-day trip for two to the Bahamas. The prize was given to Banyon for his outstanding sales performance by Automatic Data Processing, and the award was presented by Donald Boyd, ADP's managing director.

Banyon, with other successful sales executives from around the world, are brought together annually by the company in recognition of their achievement. The venue this year is the Bahamas Princess Hotel in Freeport. Banyon will be accompanied by his wife.

On arrival at the hotel, sales executives will be congratulated by the corporation president, John Weston, for their contribution to the fiscal year 1980.

Apart from looking forward to the expected sunshine, Banyon is glad of the opportunity to meet other sales executives. "I'm looking forward to an exchange of information, attitudes and ideas with them all," he commented.

He joined ADP three months ago, after ten years' sales and sales management experience.

Full members

David Webster and John Quel- through have been regraded in full members of the Institute of Data Processing Management. Webster is managing director and chairman of Alinda Systems at St Albans. Quel- through, of Cheltenham, is executive director of Minerva Computer Systems.

Jim Youmans has joined Data Logic's word processing division as sales executive. He was previously with IBM.

Dr Steven Parle, managing director of American Microsystems, Europe will be expanding his duties to include AMI sales throughout Europe, and management of the design centre in Swindon. John Richardson has become vice-president for the domestic control marketing group, having responsibility for oil sales and marketing support in the US and the Far East.

Neil Williams has been appointed manager of Viking Recruitment having worked previously for Knight Computer Services as software sales co-ordinator.



SWEDA International's golf team is one of 45 teams which took part in the Taunton Pro/Am Golf Tournament. Organised by Taunton Borough Council, the tournament attracted 17 sponsors, including Sweda, ITT and British Telecom from the electronics industry. The Sweda team professional, Mark Thomas is on the left of the picture. Other team members are Robin Fisher of Sweda, P. R. Pitts of Gateway Foods and Ken Turner of Sweda.

More golf . . .

Christopher Kay of Mallock has won the Northern England regional heat of the NCR National Long Drive Golf Championship, with a drive of 228 yards, 6 inches. The runners-up were Gary Furness of North Manchester and Simon Shearall of Sheffield.

All go on to the national final, to be held at Stoke Poges Golf Club on September 22. The championship is sponsored by NCR and organised by the magazine Golf World.

Auditor's award

A LONDON telephone industry executive has received the Bradford Cadmus Memorial Award. Charles Duly, was presented with the award by the Institute of Internal Auditors, IIA, for exemplary service.

Duly is a certified internal auditor for Standard Telephones and Cables and has been a member of the IIA since 1963, having most recently served it as European West regional director.

Big deal for ADP

AN ORDER worth £500,000 over the next three years to ADP has been placed by Alcan Aluminium UK.

ADP will provide Alcan with its own internationally available time sharing service, through ADP's network. It is ADP's tenth European on-site installation.

Alcan Aluminium has been ADP's client since the early Seventies, using DEC System 10-based services.

The agreement was signed by Brian Tyndaleigh, managing director of ADP network systems UK and Europe, and Eric Holloway, corporate systems manager of Alcan Aluminium UK.

Don't郝 has been appointed customer services branch supervisor for Redifon's Northern branch. He joined the company as a customer engineer for the Southern branch in 1978, and moved to the Northern branch a year later as senior engineer.

Mike Hardwidge has been appointed managing director of APL Plus. He joined from Germany where he ran the company's operation, having started it three years ago.

Stewart Vassila has joined Information Services and Equipment in the technical marketing division.

Mark Cleaven has been named company controller at Marcor Business Systems in Santa Clara, California. He was formerly senior accountant with Main, Hurdman and Cranston.

Diklat has made two management appointments. They are Brian Aspin, support manager and Roland Hogard, special projects manager. Aspin was formerly an analyst/programmer. Hogard has previously worked for AES Wordplex and Redifon Electronics Systems.

Nigel Bulphill is now a director of Burrnoughs Machines, the British subsidiary of Burrnoughs Corp. Prior to this appointment he was director of planning and administration of NCR.

DIARY

SEPTEMBER 1-3
Microprocessor workshop. Computer Lab, University of Liverpool.

SEPTEMBER 3-5
Logic and microprocessor system design course. Computer Lab, University of Liverpool.

SEPTEMBER 7-12
Introduction to small computer systems in engineering applications, vacation school. Institute of Electrical Engineers, London. Details: IEE, 01-240 1871.

SEPTEMBER 8
Talk on Portability of Fortran 77. Dr John Larmouth, BCS Fortran Group, BSC Headquarters, 13 Mansfield Street, London, W1, 1030 am.

SEPTEMBER 9-10
CAPP-80, typesetting seminar. Royal Lancaster Hotel, London. Details: CAPP-80 Conference Unit, 01-636 4088.

SEPTEMBER 10
Meeting IBM CUA management Association. IBM Computer Users' Association National Exhibition Centre, Birmingham.

Meeting IBM CUA computer-based training sub-group. IBM Computer Users' Association, Bank of Scotland, Edinburgh. Details from Mrs. Speckle, Tel: (01) 551 1845.

Meeting IBM CUA Series-J group. IBM Computer Users' Association, White Swan Hotel, Stratford-on-Avon. Details from Mrs. Speckle, Tel: (01) 551 1845.

Meeting IBM CUA security group. NCC Security Awareness Scheme, Owen's Park, Manchester. Details from Security Awareness Scheme Manager, National Computing Centre, Oxford Road, Manchester, M1 7PU. Tel: 061-275 8333.

SEPTEMBER 18
Meeting IBM CUA local author group. IBM Computer Users' Association, County Hall, Newcastle. Details from Mrs. Speckle, Tel: (01) 551 1845.

SEPTEMBER 20-24
Meeting IBM CUA Programming Group. IBM Computer Users' Association, De Vere Hotel, Coventry. Details from Mrs. Speckle, Tel: 061-275 8333.



Technical director

Chris Scory has become technical director of Westside Equipment, subsidiary of the Bectel Thompson Group. He was previously with the Rochford-Thompson, as a programmer and systems analyst, and prior to the new appointment was a ware manager.

Chris Tofa has joined Intercom Systems at general manager. He was formerly a senior executive covering the North West and Midlands. Tofa is a member of the Institute of Purchasing and Supply.

Two Centronics sales executives have been promoted within the subsidiary. Colin Zardis, previous sales executive for the Midlands, now special accounts manager for Drinkwater has been promoted sales executive to manager for the Territory.

Frank Brown has been appointed a consultant in Data Consultancies. He was previously a consultant to Woolworths, where he worked on computer systems, proposals, operations and training. Frank Grice has taken up the post of programmer at Chert Computers, having previously worked on a stock control system at Colonel Foods, a franchise of the lucky Fried Chickens.

Malcolm Bappa has been promoted to sales manager (non-ponents) of Beckman Instruments. He has worked as sales manager responsible for the South of England for the past five years.

SEPTEMBER 10
I've just had a carpet firm on the line. They want me to microchip their carpet.

SEPTEMBER 10
NOT FOR ANTI-MATTER TEXTILE FASHION.

SEPTEMBER 10
BUT TO USE THE CARPET PATTERNS.

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OP SPOT

Mixed fortunes in job stakes for Threshold men

NO job-hunting problems for John Greggor: the former NCC Threshold student was fixed up with a job in the industry long before completing his course at St Helens College of Technology. After 42 weeks of study and practical work based on the BEC/TEC National Certificate syllabus, John is now employed as a trainee operator at T. S. Hughes, a general store in Liverpool.

Well pleased with the placement, the 18-year-old Greggor, told me: "I spent six weeks at the site during the course. There were three of us and, at the beginning, the manager told us there were two jobs going. I was offered one of the positions and was glad to accept it."

Formerly an engineering apprentice, Greggor is now the junior partner of a two-man shift team operating a Honeywell Level 84 system on a two-shift rota basis.

He went on: "T. S. Hughes is owned by the Owen Owen group of stores so really I work for them. The machine is at T. S. Hughes' site, though."

"We also have an NCR machine - I'm not sure what model it is - and we use it to gather data sent down lines from the stores."

Part of the job
"It's a bit of a nuisance when you've finished the work but have to stay down the lines. Still, it's part of the job, isn't it?"

On the shift pattern employed at the installation, he said: "Days start from 7:45 in the morning till 4:00 in the afternoon, and evenings are from 3:30 till 11:00 at night. By train it takes me about an hour to get from my home near St Helens to the site in Liverpool. That's not too bad, really."

Importance of the low-speed printer

HAVE you ever worked on a large system which has come to a standstill as a result of the printer ribbon on the hardcopy log becoming tangled up in the print mechanism?

That happened to me on several occasions. Ridiculous, you might think, that such a supposedly insignificant device could stop a system running. Say, 10 batch jobs as well as, providing an on-line service.

The point is that some manufacturers and users alike pay great attention to sophisticated hardware and software, but fail to realise the importance of such down-to-earth devices as low speed printers.

Advice for the operations manager on how to select low speed printers is given in Data Centre Dialog, a part of Australia's data centre operations management service.

The author emphasises that the selection of low speed printers should be given as much attention as the acquisition of any other piece of hardware or software.

The manager should first consider the application and weight of workload before examining the characteristics of the low speed devices available on the market.

Of prime importance are the type and quantity of output to be produced. The amount of required information required.

Thanks . . .
THANKS for the excellent response to my request for a site visit and features in the Op Spot. I will be in contact with the respondents soon.



While John Greggor was fixed up with a job before completing his NCC Threshold course, fellow student John Thompson is still looking for work in the Merseyside area. The two students are shown here getting hands-on experience during the course which was run at St Helens College of Technology. Just in case any nites on Merseyside are looking to recruit staff at junior level, Thompson can be contacted at 83 Brookside Avenue, Eccleston, St Helens, Merseyside, Tel: 0744 32874.

A chance to move into programming

PROGRESSION from operations to applications programming is something which many in the industry, myself included, view with mixed feelings.

On the one hand it enables operations staff to get off shift work, but on the other it is debatable whether such a move makes good use of skills acquired in the computer room environment.

A widely-held view is that operations skills are best employed in areas such as technical support, operations support, systems programming, operations training, management and supervisory positions.

However, many operators are keen to move into applications programming, so the fact that Allan D'Morlas, a software house and consultancy at Harrow, is to run a TOPS programming course for experienced operators comes as good news. The first in a series of pilot

courses will start at Harrow on October 20 and run for eight weeks.

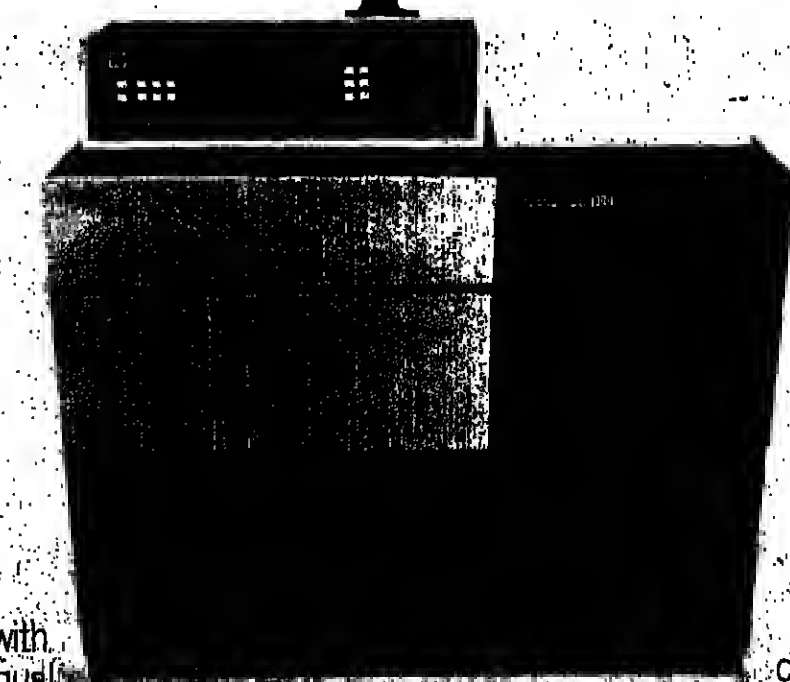
Ron Hunnibal, marketing manager of Allan D'Morlas said: "The aptitude test is of a pretty high standard and they have to undergo an intensive interview. They will also be under survey throughout the course."

Successful applicants will study Cobol and Basic with hands-on time on Commodore Pets and Doto General equipment.

Sold Hunnibal: "We're going to want between 15 and 20 students on the course and, if it is successful, we will run others. We also help our students find jobs in the industry."

So if you're an operator who is keen on becoming an applications programmer contact John Red, Education Manager, Allan D'Morlas and Associates, Equitable House, Lyon Road, Harrow, Middlesex. Tel 01-863 0831.

From Kodak a laser printer.



A laser printer with a print-out speed equal to the best available today but at a third of the capital cost has got to be good news.

And when it slashes running costs by up to seven times - can you afford not to investigate further?

The KODAK 'Kornstar' Microimage Processor, Model 200 is an on-line laser printer which writes data on to microfilm at a cost of about 62p per 1000 pages. Comparable paper print-out could cost \$4.00.

Unlike earlier COM devices, there is no wet-chemical development.

Not even developer and toner - this laser printer is completely dry. So now the speed and economy of COM itself can be applied in the computer room to dumps and SYSOUT where conventional photographic COM was just not suitable.

To find out more, just fill in the coupon or ring Roger Highmoor on Hemel Hempstead (0442) 61122 extension 214.

To Roger Highmoor, Kodak Limited, Micrographic Sales, P.O. Box 66, Hemel Hempstead, Herts HP1 1JU. Please send me full details of the revolutionary new laser printer, the KODAK 'Kornstar' Microimage Processor.

Name _____
Company Address _____
Position _____
Telephone No. _____

Best crystal ball for gas industry

by Robert Street

THE public relations departments associated with gas regions throughout the UK have had to do more than their fair share of overtime over the past two years or so — since it appeared at one time that almost every explosion was associated with a gas leak.

Just lately, the image has had to be refurbished for a totally different reason — the seemingly unjustifiable rise in gas prices, even when the gas industry as a whole is making extensive profits. The reasons are, of course, political and have little to do with the management of the gas industry.

In fact at least one part of this industry, the South Eastern gas region, or SEGAS, is one of the most dedicated and enthusiastic users of computer-based financial modelling techniques in that much-irrimpled-on sector, the nationalised industries.

It may come as a surprise to some to know that the objectives for each of the dozen or so gas regions in the UK, of which SEGAS is one, are carefully laid down and have to be closely adhered to.

As far as its contribution is concerned, SEGAS requires, especially in these days of high inflation, the best possible crystal ball, despite the fact that the industry's record profits in 1979. This best-possible crystal ball turns out to be a mixture of a financial modelling package, modified where necessary to suit individual users, with computers having interactive facilities.

The computers are an IBM 3032 and an Amdahl 470V 7. The IBM 3032 is used in teleprocessing network for customer service and accounting, while the Amdahl 470V 7 is used for a similar teleprocessing network but is mainly limited to regional headquarters at Croydon, where the application is program and systems development, operational research and short- and medium-term planning.

The financial package used is FCS (Financial and Corporate planning System) originated and sold by the British firm EPS Consultants — of London. Upwards of 500 firms including quite a number in the US and Canada now use this package.

One description of the language used in FCS is as a form of 'accountants' Basic'. FCS, however, is far simpler to use than Basic (which, despite claims to the contrary, is difficult) and somewhat less extra-

vagant in its use of statements in the functional part of its application.

Main components

Its main components are LOGIC and DATA, and the system is row-oriented. Logic contains a sequence of numbered statements which will indicate the terms to be used and their relationship, for example:

+20 'UNIT PRICE'
+25 'VOLUME'
+30 'REVENUE' = 'UNIT PRICE' * 'VOLUME'

DATA allows information to be entered into terms defined under LOGIC. For example:

+20 U, 1.2, 1.2, 1.26,
1.3, 1.33 would allow
unit data (hence the U) to
be entered into item 20
— that is, unit price.

The DP user takes to this sort of language like a fish to water, and accounting and other staff without any computer background do not seem to have any great problems in learning and applying the system. However, to cater for staff who may have language as quickly as more DP-oriented staff and, more importantly, perhaps, to allow new and untrained personnel to use the system very quickly, SEGAS has further packaged the FCS system so that, where necessary, prompts appear on-

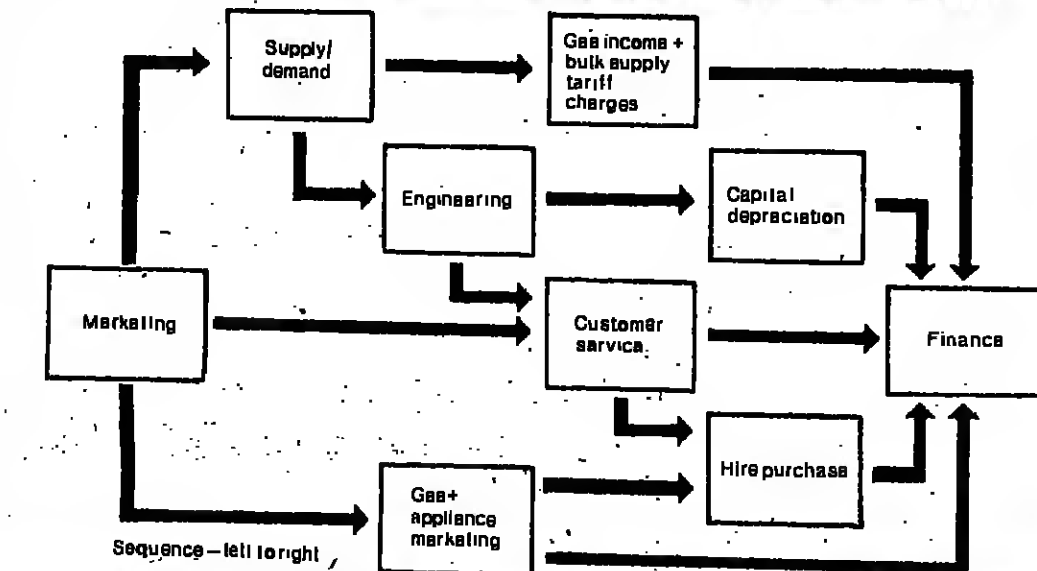


FIGURE 1 illustrates the integrated planning model, sometimes called the corporate planning model and is heavily marketing-oriented.

VDU screens for use in interactive mode.

The overall SEGAS model is an IPM (Integrated Planning Model), sometimes called the Corporate Planning Model. This is heavily marketing-oriented, as can be seen from Figure 1. The marketing sub-models are the driving force behind the system and, whereas other SEGAS models have not yet incorporated historical data in many cases, the marketing sub-models use up to four years' past data that more accurate forecasts can be determined.

These forecasts are necessary as marketing and selling by the

12 gas regions and by SEGAS is a complex business — and a very large one. Not only does SEGAS sell natural gas (from the North Sea) and liquefied gas in very much smaller quantities from places like Algeria and Norway, but it also sells complete central heating systems, installing them either directly or through its agents; with cookers, heaters and other appliances.

Besides the marketing models which effectively determine overall strategy, the IPM is further influenced by three major factors: The philosophy for the IPM and sub-models used; the philosophy for the ultimate

philosophy used is that the sub-model used in the IPM and the sub-model for the individual group and management team involved shall be identical, but that every old possible shall be given to the user to facilitate his interactive working.

This interaction is also important since data generated in one sub-model can be transferred to other models as required and finally to financial routines where the ultimate

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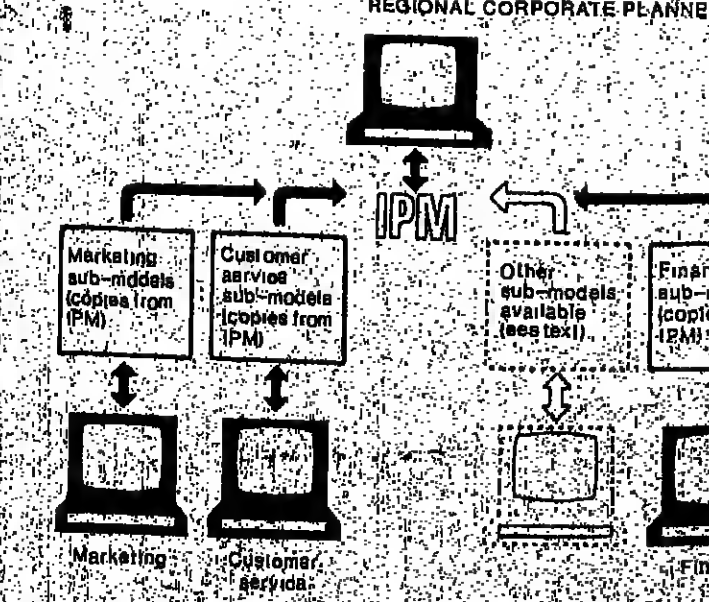


FIGURE 2: The philosophy of the IPM. The diagram shows the flow of information and data between the IPM and its sub-models. The IPM is the central model, and the sub-models are the Marketing, Customer service, and Finance sub-models. The IPM is the central model, and the sub-models are the Marketing, Customer service, and Finance sub-models.

With inflation and interest rates still in double figures, greater attention than ever needs to be paid to planning so that accurate budgets can be drafted to minimise overdrafts and short-term debts.

At the South Eastern Gas Board, a small team has been set up to develop financial modelling techniques and apply them at the board.

The package used for development gives the user an accountant's form of Basic which Robert Street says is far simpler to use than the language itself.

Street runs his own consultancy which also has a specialisation in micro. He was also European Editor for Auerbach between 1971 and 1980.

assessment of the SEGAS forecasts is made (see Figure 1).

To give some idea of how the works in practice, Model 20 (gas sales) requires the total number of central heating installations generated in Model 10 (central heating sales) as input. In addition, Model 20 also requires a direct input — independently of all other models — the total number of initial and replacement sales of all other appliances; average annual consumption for all classes of appliance; numbers of customers at year-end; certain market parameters; historical data for trend extrapolations; commissions and output.

Interaction

From all this data, the gas sales model calculates the domestic gas sales under a wide range of headings and writes output files for other models.

Since such interaction is critical, the facility with which the relevant departmental or other manager can run 'his' model is also critical. Fortunately, SEGAS can easily package its interfaces between the models and the actual user to suit the user very easily — as has been seen by the example of prompt.

What is perhaps even more relevant is that SEGAS has only a small section, staffed by three or four experts, who are directly concerned with modelling and techniques associated with it. This means that the overhead associated with running the system are, especially in the considered relative to its size, extremely low.

This whole concept may be a pointer to the demise of extravagant databases and heavy overhead file manipulation which have in many cases retarded the development of the

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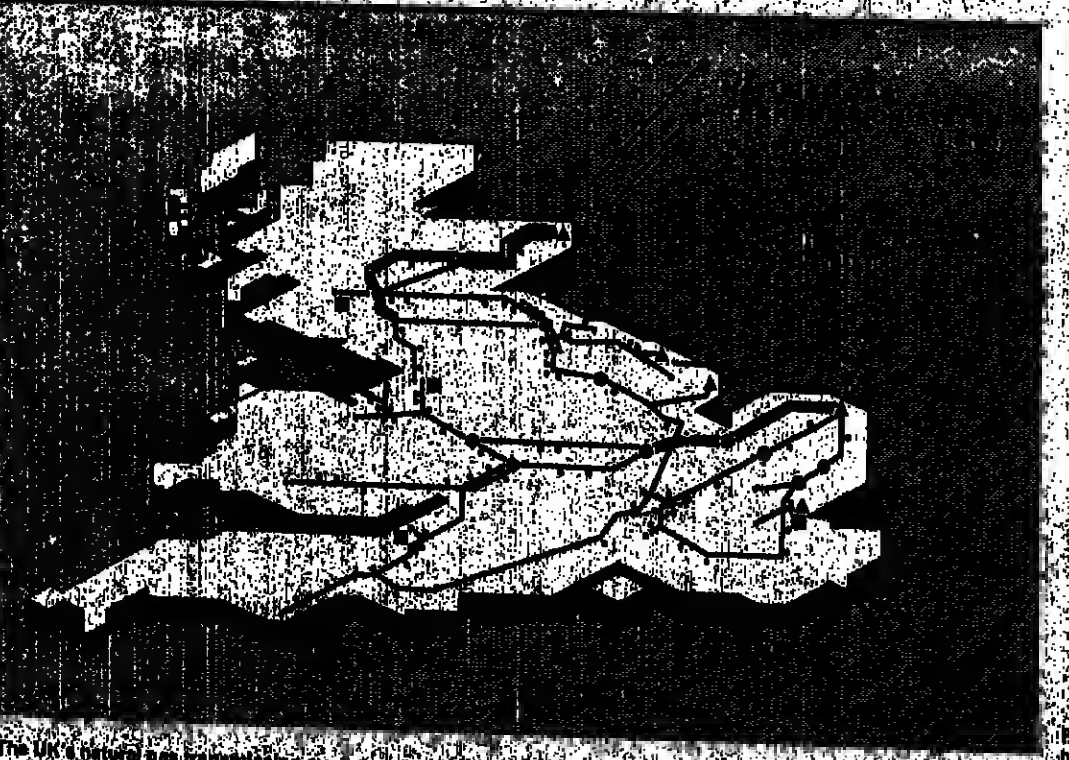
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PRODUCT NEWS

200 chps forms printer

A FORMS printer that provides continuous printing for a range of business applications has been introduced into the UK by General Electric of the US.

Called Termet 200, it is available in teleprinter and line printer models. An adjustable tear bar permits the printers to use a variety of standard forms with different header lengths.

The printers can produce from one to nine copies at 200 chps with a paper speed rate of 20 inches per second. A non-volatile memory allows storage of up to eight vertical formats. Users can store formats from their own data source with a down line loading option on the teleprinter.

Termet 200 has servo-driven tractors. The print head provides 7 x 8 dot matrix character formation. An optional 9 x 9 matrix permits underlining and lower case descenders. Vertical spacing of six or eight lines per inch is switch selectable and paper width can vary from 4.75 to 15.75 inches. It costs from £1,800.

International General Electric Company of New York (CW), 111 Park Road, London, NW6 7L. Tel: 01-402 4100.

Leaflet

A LEAFLET giving details of the range of self-adhesive tapes from Limpet Tapes has been published. Also available is an illustrated leaflet listing the Limpet range of tape dispensers. Both leaflets are free.

Limpet Tapes (CW), Bond House, Goodwood Road, London, SE14 6BL. Tel: 01-492 0131/4.

Fire resistant files

A RANGE of fire resistant three, two and one drawer computer tape protection files has been announced by Eurosec.

Suitable for IBM, Univac and NCR storage requirements, the range conforms to International standards and has been awarded a one-hour UL class 150 fire label.

The one drawer computer tape file has been designed specifically for floppy discs. The files retail at £1,347.

Eurosec (CW), 7 Ludgate Broadway, London EC4V 6DX. Tel: (01) 651 4574.

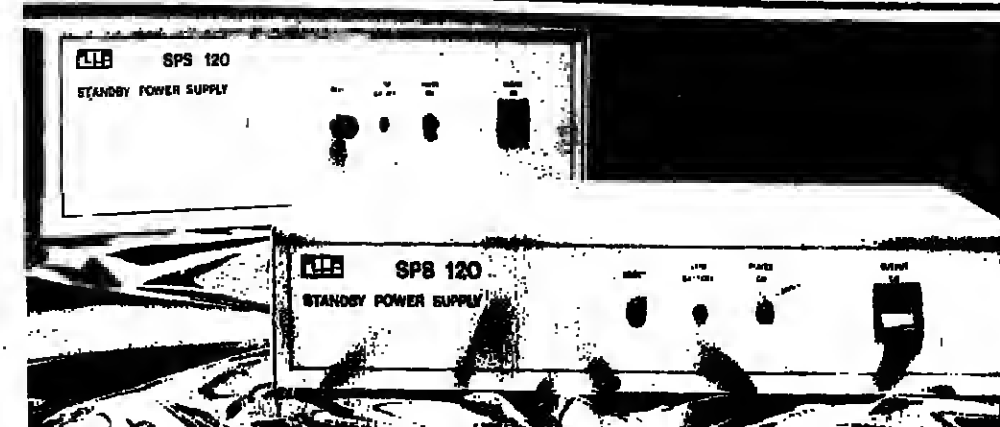
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Pulse code data acquisition system

A PULSE code modulation data acquisition system that is based on an Intel PROM chip and uses thick-film hybrid circuit technology has been introduced by Aydin Vector Controls.

Called MMP-600 series, it allows the number and type of inputs to be varied up to a maximum of 510 channels.

A typical MMP-600 system consists of modules for power supply, timer, formatter, programmer, sample-and-hold, analogue/digital conversion and end plate, plus one or more multiplexer modules.

Each multiplexer unit is fitted with a miniature 37-pin connector and provides up to 32 analogue channels or 30 bi-level gates.

The system can be expanded by plugging in additional modules.

Aydin adds that the MMP-600 is designed to accept any mix of single-ended or differential analogue, serial digital, bi-level (parallel-digital or discrete) or pulse inputs.

Bit rates are from 1K-bits per second to 1 mbits per second for high level and from 1K-bits per second to 800K-bits per second for low level. Four binary related

Pocket size Avo meters have diode test facility

TWO pocket size digital Avo meters, the DA211 and DA212, are available from BA Electronics. Both units have a 3 1/2 digit liquid crystal display and incorporate overload protection and a diode test facility.

The DA211 is powered by a single cell 9 volt dry cell with a life of about 200 hours. Eight in-line push buttons are used to select from the measurement ranges which include: DC voltage, five ranges from 200 millivolts to 1 kilovolt; for AC the ranges are either 200 volts or 1 kilovolt. The ranges for DC current are either 200 microamps to 200 milliamperes or a 10 amp range via a separate socket. For measuring resistance, there are four ranges between 0 and 2 megohms. It costs £45.

The DA212 is powered by two 90 batteries and has a wider range of measurements via two rotary selection switches. It has a "battery low" indicator and the display incorporates a unit indication feature which shows

the measurement function and range in use. It costs £85.

BA Electronics (CW), Millbrook Road, Yate, Bristol, BS17 5NX. Tel: 0454 315824.

Four additions to 400 series

DATA 100 has added a 225 lpm belt printer as well as 300, 400 and 600 lpm drum printers to its 400 series.

Facilities on the printers include 6 or 8 lines per inch compressed print, horizontal tabbing and up to 132 column print line widths.

The printers accommodate forms from 4 to 7 1/2 inches in width, up to 8 parts. Prices for the line printers start from £4,694 purchase and £141 per month for a 3 1/2 year rental. Data 100 Systems (CW), Arden Grove, Harpenden, AL5 4UD. Tel: 05827 63161.

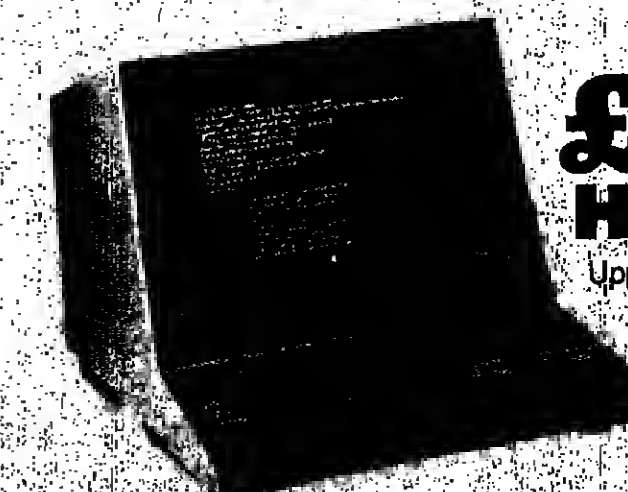
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IBM	DOS/VS COBOL + CICS + DLI Programmer and Analyst.	140, HOLLAND
IBM	Programmer for 6 month contract on new development project commencing August 1980.	164, C. LONDON
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COMPUTER WEEKLY
COMPUTER WEEKLY, August 28, 1980

BOOKS

Chess is yardstick for AI progress

Advocates in computer chess, Volume 2, edited by M. R. B. Clarke, 142pp. £7.00. Edinburgh University Press (CW), 22 George Square, Edinburgh EH8 9LF. Tel: 031-607 1011.

CHIESS is now accepted as a yardstick for progress in Artificial Intelligence. If computer chess has not yet come of age, it is respectable and serious, as shown by investigations of the last few years in this collection of nine papers presented to a 1978 conference in Edinburgh.

Take just two of the topics: a representation of pattern knowledge in chess endgames, contrasted with an analysis of minimax, confirms, at least to us, by their range, the genuine comparability of human and Artificial Intelligence in the "narrow" field of chess.

A promising trend shown in most of the papers is the concentration in small groups of chessmen in the chess and game. We find valuable results with just three not four chess-

men, for instance, with rook against knight covered in some depth. Note: the two kings are always included in the "four."

The play-perfect databases developed for this case (and for queen against rook, not covered in this book) have impressed, sometimes confounded, the chessplaying experts. They are, at the same time, the hope of the AI fraternity in their current emphasis on "knowledge."

These databases seem to offer an ideal basis for collaboration between chessplayers and AI researchers. The paper "How hard is the play of the king-rook-knight ending?" is a case in point. The authors appear to believe that playing this ending perfectly is at or near the limit of human ability.

That we find ourselves even discussing the limits of human capability in the context of computer chess in 1980 is surely the most exciting thing about this anthology.

JOHN ROYCROFT

Panacea for all ills?

The threat to industry and the welfare state. 24pp. 20p. TUC Publications (CW), Great Russell Street, London WC1B 3LS.

A BOOKLET from the Trades Union Congress has slammed the present government's economic policies and put forward an alternative strategy based on economic expansion, full employment, import restrictions, industrial democracy and a positive role for nationalised industries.

The TUC booklet puts great play on the role that new technology will have to play and calls for new schemes to encourage investment in new products and new processes.

To pay for this, the TUC suggests that finance from North Sea oil and insurance funds should be mobilised and a more powerful National Enterprise

Board as well as the Scottish and Welsh Development Agencies would be used to stimulate investment and promote employment and the restructuring of British industry.

A Continental-style National Investment Bank is also proposed along with moves towards more progressive taxation and a toe on windfall profits made by major banks and oil firms.

However, the booklet does not propose nationalising firms or parts of firms that have been sold off by the present government. It merely points to a more positive role to be played by the present core of nationalised industries which would be used to develop the UK's economic framework and infrastructure in the areas of communications, energy and transport.

CHRIS YOUTT

A problem shared across the sea

The Urwick report, edited by Ted Cluff. 49pp. £9.95. Computer Publications (CW), Unit 3, 33 Woodthorpe Road, Ashford, TW15 2RP.

THE title of this report could well have been "A problem shared." The book sets out to prove that the problems of the UK DP industry are similar to those faced in the US.

Having proved this to be the case, mainly by means of extensive quotations, the book offers no guidelines as to the value, if any, of the findings.

The knowledge that the DP team in Kensington shares the same problems as those in Louisville does not necessarily comfort those closely involved.

A major limitation of the book, size apart, is that the survey was confined to 24 organisations — hardly the most representative number on which to base a meaningful report.

Apparently the problems most troubling the respective groups of installations were those of staff shortages, program maintenance and, particularly for the UK sample, the problems of new technology.

At least, those were the problems ruling a year or so ago when the study was undertaken.

Ignored

Had the study been made at a more recent date on possibly a wider and less formal basis, there is little doubt that the findings would not have been so predictable.

In the present economic climate, the foremost problems would probably be those of budgeting closely followed by resource management.

Similarly, issues totally ignored in the published survey would now include security, privacy and the growing awareness of the benefits of the PCM independent suppliers.

Confidence by both the general public and the DP industry is not exactly helped by such surveys which only promote the problem areas of computing.

The respective talents of the compilers would surely have been better served by charting the progress, achievements and opportunities being generated by the industry.

Less attention to programmer salary scales and more to the benefits of communication network facilities would have been welcome.

Meanwhile, problems do not seem to have been limited to the DP industry. Editor Ted Cluff has been unable to define a clear beginning, middle or end structure to the report.

One major problem area at least to the prospective purchaser of the book is that of value for money. Looking even at 20p a page, the book is priced at 49p a page. Or for US readers, approximately 8 cents at current conversion rates.

ALAN SIMPSON

Giving robots serious treatment

Robots in Industry, by G. L. Simons. 216pp. £16. NCC Publications (CW), Oxford Road, Manchester, M1 7D. Tel: 061-228 6333.

THE gradual transition in the public image of the robot from tin-man to builder of Fiat's, perhaps an acknowledgment of the fact that robot engineering is now a respectable discipline.

It is now possible to produce books which can deal with technical aspects of the subject without being obliged to include 18th Century automata, R2D2 and dinosaur table clearing machines.

This book is one of the first to give a serious treatment to practical robots and is an introduction to the technology and applications of industrial robots.

By this is meant manipulators which do a repetitive handling task under automatic control without human intervention. The book does not deal with any extent, robot vehicles or human-controlled manipulators.

Performance

Chapters cover a number of typical models and their performance; mechanical features; sensory systems; programming and control; and applications. A classification of UK suppliers is appended.

The book will be found useful as a guide to the current state of industrial robot technology in Europe, Japan and the US as well as an index to suppliers and publications. It is up to date and brings together a lot of otherwise scattered information.

However, caution must be exercised in assessing the developments described, particularly with respect to claims for performance.

The book often seems rather uncritical. For example, the chapter on sensory systems consists of a large extent of a string of brief reports on projects, sometimes derived from magazine articles rather than the original source and, therefore, subject to an unknown degree of error.

The section would have been strengthened by a comparison of the various systems described and an assessment of their degree of development and their usefulness.

Criticisms

A few minor criticisms must be made. I would like to see some evidence for the statement that robots with legs have operated successfully in the domestic environment; reference to "tailwind chips" at reference to all kinds of components of all kinds are mentioned in the text, seem to be present because of a feeling that modern pieces of writing is complete without them and need not dispute that "it seems highly likely that people today will come to have a more intelligent and capable as ourselves."

At £10, the book seems rather expensive; for this price one might expect some line drawings in addition to the photographs. Certain points, however, the geometry of grippers, would be clarified by a book. Nevertheless, the book is likely to be of value to anyone with a serious interest in industrial robots.

DR JACK TON

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Banking Consultants

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Real-Time Applications

Holland: Salary to £16K

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Message Switching

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£NEG **SENIOR PROGRAMMER** **COVENTRY** **W282**
3-5 years' programming experience using COBOL, preferably on ICL equipment. Supervisory experience an advantage.

Consultant: Hazel Foggins.

HELP!

My Consultants are being inundated with well-paid vacancies from a very wide variety of client companies. They have asked me to make a special appeal for experienced Programmers, Analysts and Project Leaders to consult us now about these new career opportunities. If you are experienced in commercial or manufacturing applications, phone me or any of my Consultants right now. We will do everything possible to assist you in your vital next career move.

Signed: Bob Male, General Manager.

To £8,000 **PROGRAMMERS** **BIRMINGHAM** **5/550**
1-3 years' BASIC programming experience. RTII or RSTS/E. Bureau environment. Commercial applications. New office accommodation.

To £7,000 **PROGRAMMERS** **BIRMINGHAM** **5/550**
2 years+ COBOL preferably mainframe. Commercial and financial applications. New hardware recently installed.

£6,000 **ANALYST/PROGRAMMER** **BIRMINGHAM** **5/550**
Approx. 2 years' programming experience, preferably System 10 Assembler. Development work. Substant to OPM.

£5,200+ **PROGRAMMERS** **BIRMINGHAM** **5/557**
Experience of ICL COBOL is required. Financial/Commercial applications. Insurance Company. Excellent fringe benefits.

£NEG **PROGRAMMERS** **BIRMINGHAM** **5/558**
Programmers to work on Datapoint minis using Quesada; preferably or any other interactive language.

Min. £5,500 **BUSINESS ANALYST** **BIRMINGHAM** **5/551**
Business Analysts experience; and O and M or Work Study. 'A' level education desirable. Large national manufacturing organisation.

To £7,500 **ANALYST PROGRAMMER** **BIRMINGHAM** **5/550**
Experience required in RPGII; preferably ICL hardware. With approximately one year's analysis experience. Commercial applications.

£6,500 **ANALYST PROGRAMMER** **WOLVERHAMPTON** **5/555**
Opportunity for young Graduate with some programming (preferably COBOL and RPGII) to join a progressive company providing excellent benefits and working conditions.

To £7,000 **SENIOR PROGRAMMER** **WEST MIDLANDS** **5/556**
Several years' COBOL, preferably ICL, advanced programming and supervisory duties with a small team.

C.£9,500 + CAR **SYSTEMS DEVELOPMENT MGR** **WEST MIDLANDS** **5/550**
An experienced man manager to control a team of 18. Development of strategic plan, staff development, user liaison.

£5,500 **PROJECT LEADER** **WEST MIDLANDS** **5/551**
To lead a team working on advanced management accounting and financial modelling techniques.

C.£5,500 **SYSTEMS PROGRAMMER** **WEST MIDLANDS** **5/552**
To expand and maintain a communications network, evaluate software and upgrade hardware.

To £5,500 **PROG. & ANALYST PROG.** **WEST MIDLANDS** **5/545**
Competent and experienced Programmer/Analyst/Programmer and Senior Analyst/Programmer required.

To £5,500 **SYSTEMS ANALYST** **ODDSURY** **5/553**
Experienced systems analysts required having ICL COBOL background for commercial applications.

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26 Waterloo Street, Birmingham B2 6TJ
Telephone: 021-233 2921 (24 hr. service)
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U-E-A

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Oxford To £8000
Here is an excellent opportunity for a young person with a maximum of 1 year's COBOL to join a small group offering a new service called COMPUMARK. You will be designing, developing and customising sales forecasting and Management Information Aids using this well-known group's IBM 370/OS computer. You will also enjoy top company perks of 4 weeks' holis., subsidised meals, flexitime and a very active sports and social club.

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Near Uxbridge To £11,500
A well established and successful light engineering company is expanding its data processing department and obtaining a System 34 computer. They now require a suitable candidate with small system installation experience, preferably with a business studies or science degree background. The candidate must have RPGII knowledge plus a smattering of COBOL. There will be usual company perks and prospects look good.

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We have a number of positions ranging from Programmer to Project Leader with both small and large commercial companies. Locations are the CITY, BROMLEY, BRENTWOOD, CHATHAM, REDHILL, SLOUGH, ENFIELD, SOUTHALL, COCKFOSTERS, BRACKNELL, WATFORD, BEDFORD, ESHER, SWINDON & CHELTENHAM.

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Prospect Place, London W4 3BR
(01-958 6138 Evenings)

MVS SYSTEMS PROGRAMMERS

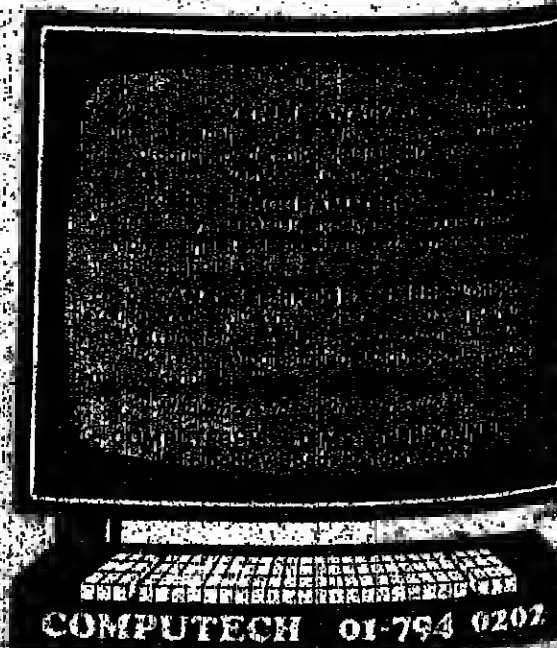
NEW YORK AND MINNEAPOLIS

These assignments are for twelve months and will carry an earnings package in excess of \$35k with significant tax advantages. Please contact Cathy Walsh on 01-240 2441 for further information.

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Knight Programming Support promise that as one of our contracts staff you will never be sent on an assignment which doesn't totally suit your skills and experience, and the rates of pay that we offer are more than generous.

Listed below are just a few of the many vacancies we have on our books. Even if you can't see a job that is right for you contact us and we are sure we will be able to help.

* PROGRAMMER £375

ICL 2900, COBOL. Start mid-September. North West area. Must have experience of VMEB operating systems, commercial systems experience also essential. 3 months' initial contract.

* SYSTEMS PROGRAMMER £300

ICL 1904S, George III, DME. Contract involves conversion from 1904S - 2960 model 10, must have knowledge of George III and DME. Lots of travel involved. Duration 6 months. Immediate start.

* GOOD ANALYST REQUIRED £300

IBM and/or mini experience preferred. To work on sales system. Start immediately. Duration 3 months. Midlands area.

* SENIOR PROGRAMMERS £280

IBM 370/138, CICS, PLI, COBOL. Real-time environment, supervising programming teams. 6 months' contract, immediate start, North West location.

* PROGRAMMERS £300

IBM/PLI, IMS/DB/DC experience required. Real-time environment, working on varied financial applications. Start immediately. Midlands location.

* PROGRAMMER £270

UNIVAC 1100 experience. 4 years plus COBOL essential. Systems support and audit modification. Start October. North West location. 3 months' initial duration.

* PROGRAMMER £300

PDP11, Fortran. North West location. Development of system for plant information. Familiarity with Fortran programming essential on DEC/PDP 11. Start September. Duration 6 months.

* ANALYST £300

DEC 10, Fortran. North West location. Statistic modelling/simulation experience essential. Start immediately. Duration 1-2 years.

* PROGRAMMER £280

Good Fortran and Data General Assembler experience essential. Immediate start. Midlands location. 3 month initial contract.

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UNIVAC 1100 FORTRAN Programmers

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Mail (no stamp) to FREEPOST, Computer People North, Sovereign House, Stockport Rd. Cheadle, Cheshire, SK8 2YD.

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We require an experienced professional to sell a security support service to large mainframe users.

The project is expected to last for some 15 months and the successful applicant will earn, through basic retainer and commission, £26K in that period or sooner.

Applicants with a proven sales record preferably in the computer field should write with CV to:

The Managing Director (Security)
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The person appointed will be responsible to the Computer Manager for the management of the Information System section of the Computer Department which is engaged in development, implementation and updating of administrative computing throughout the Polytechnic. Systems established include payroll commitment accounting, library loans and student registration.

Applicants must have appropriate professional standing in computing and considerable experience with a range of systems comparable to those indicated. Experience should also include liaison with senior management, project responsibility and supervision of staff.

The Polytechnic is a direct grant institution with an independent Board of Governors. It opened in 1971 and has a student population of some 7,600. It has extensive new purpose-built accommodation, including 830 residential places on its 114-acre campus overlooking the sea at Jordanside, a pleasant and quiet residential area. There is a scheme of assistance with removal.

Further particulars and application forms which must be returned by 15th September, 1980, may be obtained by telephoning Whitehouse (0231) 66121 Ext. 2243 or by writing to:

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1900/2900 TPS, MTS
SYSTEM 8100 (COBOL)
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Contact Rosemary Forsyth, Sales and Marketing Division, on 01-829 8863.

UK TELECOMMUNICATIONS CONSULTANT £15,000 NEG + CAR

Our client, an established leader in the WP/DP field and currently undergoing expansion, have a position for a consultant, UK based, with a telecommunications background. In particular, your knowledge should cover batch and interactive communications, systems network architecture, teleprocessing and modems. Contact Rosemary Forsyth, Sales & Marketing Division, on 01-829 8863.

INTEGRATED INFORMATION SYSTEMS £28K + 2 litre car

You are currently selling with one of the major WP manufacturers preferably Midlands based, and are ready for your next move to this outstanding WP/DP company acknowledged for its state-of-the-art technology in multifunctional workstations. Unparalleled benefits package and first-class support. Contact Rosemary Forsyth, Sales and Marketing Division, on 01-829 8863.

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SALES EXECUTIVES
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Computer Professionals with a proven sales background are offered management opportunities within a well-established market leader in mini computers. The opportunities are exceptional. Realistic salaries together with high bonuses and an excellent incentive scheme subject to financial, a very attractive package. Company bases are throughout the country. Contact Ian Paterson, Sales and Marketing Division, on 01-829 8863.

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This is an exceptional opportunity to join the Software Development team of a British-owned mini computer manufacturer who are already market leaders in the UK, East-West Europe and Middle East. Their plans to market in the Far East are well underway. System software specialists are required to assist with the on-going development of new software products.

Successful candidates will have extensive Assembler programming experience which should have been applied in the areas of transaction processing, compilers, operating systems or communications using mini computers.

Training is offered to IBM systems programmers who wish to make the transition from main frames to minis.

In addition to the excellent prospects available for ambitious people, the company offers a substantial benefits package including full assistance with relocation.

Contact: Margaret Stevens

Development Manager

West London

to £12,000 + Car

A vacancy exists with a mini computer manufacturer for an experienced Manager to take responsibility for a small but highly effective team. The background required is a comprehensive appreciation of systems software, sound commercial business acumen, coupled with at least 2 years proven management experience and a broad understanding of most facets of business systems development.

The successful appointee will have the ability to gain clients confidence, communicate at all levels and be able to identify work potential both within and outside his/her immediate brief. Excellent career prospects.

Contact: Margaret Stevens

Project Leader

London

c. £10,000

We have been retained by a large International corporation to recruit a Project Leader to take responsibility for a Resources Scheduling application on HP3000 equipment.

Candidates should have at least seven years in d.p. and be able to undertake the initial study and design of the system before setting up a small team to complete the programming.

Contact: Jim Baker

Programmers/Analysts (DEC)

City

£6,000 - £10,000

This is an opportunity to join a well established systems house, at the inception stage of a new project. The software being developed covers various applications in an unusual financial discipline, therefore, experience in the accounting field is essential. Programmers must possess a good command of Basic + or Basic +2 gained in a commercial environment.

Analysts would also be expected to have this ability, including involvement in the enhancement or development of one major system.

The company can offer good promotion prospects, coupled with excellent salaries and fringe benefits.

Contact: Janet Chilvers

Senior Software Lecturer

Hertfordshire

c. £8,500

The technical marketing department of this large computer manufacturer runs an education centre for customer training, incorporating several in-house mini computers which provide for training aid, demonstrations and benchmarking.

Candidates for this post will preferably be educated to degree standard and have several years experience in the industry involving exposure to operating system software.

In addition to giving courses, the lecturer will be expected to prepare new course material and keep existing courses up to date.

Occasional travel may be necessary. Excellent corporate benefits apply.

Contact: Brian Postles

Analyst Programmer

City

c. £8,500

An international trading organisation wishes to appoint a Senior Analyst Programmer to take responsibility for the design and development of an accounting system.

Applicants should have five years experience in both systems and programming work. They should also contribute to the design phases of commercial mini projects. Knowledge of COBOL and PL/I would be an advantage.

Contact: Jim Baker

COBOL Programmers

Essex/European Travel

£8,500

A small specialist professional team working in the finance sector of a multi-national organisation requires experienced programmers to develop their accounting and management information systems. The installation consists of IBM 370/168, Amidahl V5 and Datapoint 1800 mini computers.

A minimum of two years COBOL programming with a working knowledge of OS/VS is essential.

The company offers excellent conditions, relocation assistance where necessary and a good benefits package.

Contact: Janet Chilvers

**JAMES BAKER ASSOCIATES,
International Personnel Consultants,
32 Savile Row, London W1.
Tel: 01-439 9311.**

See 11 no 170

COMMERCIAL SYSTEMS

COBOL Programming experience essential for these positions offered by leading London Bureau. A considerable amount of the work is on a variety of new commercial systems. Profit share scheme to £10K

SALES

Technical background on minis preferably with knowledge of graphics and plotters. Required for sales role in Northern England. Products are high-quality graphics terminals - previous client contact advantageous. Selling experience not essential. c. £7.5K basic

MICROS ANALYSTS

Systems Analysts with extensive experience of microcomputers and software development required for design and development work on hardware and software at new hardware supplier in the north. Excellent Engineering background preferred. £9-14K

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Programmer, Analyst/Programmer and Analyst with 2+ years Mini Assembler knowledge of basic and assembly, and a general scientific/technical background required by an international Systems Group in Holland. Applications include Process Control, Robotics, Message Switching and Simulation. Job offers assistance. £12-17K

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Experienced Project Leaders wanted by leading Mini-computer Manufacturer for their development centre in Middlesex. Major applications areas are banking and insurance systems. Previous experience with IBM and other mainframe systems essential. Salary £11K

DEC

Knowledge of Process Control and Communications applications on DEC equipment is of special interest to this Surrey-based specialist consultancy - personally and intellectually important to get along with your colleagues in a small, but select, office. to £8.5K

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Computer and Professional Personnel Consultants

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A dynamic computer operations manager is required who is capable of imposing professional standards and disciplines on the installation and of gaining the confidence of users.

This exceedingly demanding position offers challenge and job satisfaction to an experienced manager or chief operator who has the ability to impress his personality on the department. Previous IBM experience, though not essential, would be useful.

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Project Leader
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Senior Analyst £10,000 + car
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Anal/Prog (COBOL) £8,000 + car
Systems Analyst To £8,250
Systems Analyst £8,000
Systems Analyst £8,000
Prog (ASSEMBLER) £8,500 neg.
COBOL Programmer To £8,250
Business Anal (RPG11) £8,000 + car
Systems Analyst To £8,000
Prog (MINI) To £8,000
Prog (ASSEMBLER) £8,500
COBOL Programmer £8,500

If you are interested in any of the above positions, please phone for an Application form or send in your CV.

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COMPUTER WEEKLY

DEPUTY EDITOR £10K

This key position offers substantial scope for influencing the running of the country's top computer newspaper. With a circulation of over 90,000, and an excellent editorial reputation, Computer Weekly is at the head of its market.

It now needs a Deputy Editor, who has both the drive and organisational skills to keep it there, and the energy to run the paper day-to-day.

The successful applicant is likely to be a qualified journalist with substantial experience of the computer industry, though the appointment of a candidate with the right professional and personal qualities, but little or no journalistic experience, is also possible.

SENIOR REPORTER

A vacancy will arise shortly for a senior reporter. He/she will either be a specialist computer journalist who wishes to move to the market leader and work with similarly skilled colleagues, or have thorough knowledge of at least one part of the industry, gained through working in it, and feel able to make the switch to journalism.

Computer Weekly is a leading title of the International Publishing Corporation, the world's largest publisher of specialist professional journals. Its editorial offices will be based in central London, in Sutton, Surrey in early November this year.

For more information, write to: The Editor, Computer Weekly, IPC Publishing, 100 Abchurch Lane, London EC4N 3DF, or to: The Editor, Computer Weekly, 100 Abchurch Lane, London EC4N 3DF.

Have you experience of computer systems, programming or method study?

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Up to £8232 p.a. inc.

For the Directorate of Finance, to develop the use of visual display terminal based computer systems in all areas of the Council's service. You will be responsible for the development and implementation of these systems in full consultation with departments. You will also need to develop the use of computer interpretation languages and to learn the use of interactive computer languages A.P.L.

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SENIOR SYSTEMS ANALYST/DESIGNER

to £23,000

ANALYST PROGRAMMER

to £20,000

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John Tattersall, U.I.M.C., St. Bridget's House, Brixton Road, London SW9 8BP.

Telephone: 01-5774/5363.

COMPUTER WEEKLY

DEPUTY EDITOR £10K

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Computer Weekly is a leading title of the International Publishing Corporation, the world's largest publisher of specialist professional journals. Its editorial offices will be based in central London, in Sutton, Surrey in early November this year.

For more information, write to: The Editor, Computer Weekly, IPC Publishing, 100 Abchurch Lane, London EC4N 3DF, or to: The Editor, Computer Weekly, 100 Abchurch Lane, London EC4N 3DF.

ad executive (kingston) 180

U-C-A

Junior Programmer/Analyst

Oxford To £6000
Here is an excellent opportunity for a young person with a maximum of 1 year's COBOL to join a small group offering a new service called COMPUMARK. You will be designing, developing and customising sales forecasting and Management Information Aids using this well-known group's IBM 370/OS computer. You will also enjoy top company perks of 4 weeks' holiday, subsidised meals, flexitime and a very active sports and social club. CW 35/1

Data Processing Manager

Near Uxbridge To £11,500
A well established and successful light engineering company is expanding its data processing department and obtaining a System 34 computer. They now require a suitable candidate with small system installation experience, preferably with a business studies or science degree background. The candidate must have RPGII knowledge plus a smattering of COBOL. There will be usual company perks and prospects look good. CW 35/2

PL/1 Vacancies

London and Home Counties £5,500 to £11,000
We have a number of positions ranging from Programmer to Project Leader with both small and large commercial companies. Locations are the CITY, BROMLEY, BRENTWOOD, CHATHAM, REOHLIL, SLOUGH, ENFIELD, SOUTHALL, COCKFOSTERS, BRACKNELL, WATFORD, BEDFORD, ESHER, SWINOO & CHELTENHAM. Ring Irene

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Ring Irene CW 35/3

U-C-A

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Western Geophysical Co. of America are international leaders in the search for oil, gas and other natural resources. Our European/Middle East operations have their Data Processing Centre in West London.

Working with our Navigation Department, you'll be required to work on navigation and quality control software. Initial work would involve modifying existing software and generating new software based around an HP 9845 desktop computer. Some work with HP 2100 series mini computers and involvement with data reduction procedures on an IBM-370 can also be expected.

The successful applicant, male or female, should be qualified to degree level or equivalent with a minimum of 2 years' programming experience and must be prepared to travel to our marine survey crews. To the right person we're offering a competitive salary, excellent sport and social facilities and the opportunity to advance your career.

For further information please ring Jill Murphy 01-560 6399 or write to her at:

Western Geophysical

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Tel. 01-568 7391 Tel. 24977

COMPUTER WEEKLY CLASSIFIED

01 261 8028/8097/8019

the newspaper computer people rely on

THE SALES BIT

Moving into management

A FEW weeks ago my company ran a recruitment campaign for the location of computer salesmen. It consisted of a series of advertisements, each featuring a particular benefit available to prospective recruits.

While the features were, by and large, equally attractive, it came as no surprise to me that by far the biggest response was to the advertisement aimed at salesmen aspiring to enter sales management.

Most senior salesmen, when asked "What will be the next stage in your career?" typically declare their ambitions for advancing into sales management. However, more often than not, this response comes over as a reflex action of someone wishing to say the "right thing" as opposed to the revelation of a well-considered sales strategy.

The transition from salesmen to manager is not an easy process. I don't know of any statistics on the subject, but my guess is that there are significantly more failures than successes.

The attitudes of both salesmen and their peers on this change of occupation (for change it certainly is) is typically naive. It is as if they believe that bestowing the title of manager automatically initiates a divine power upon the individual, giving him the skills and qualities necessary for success.

Why do so many salesmen fail to survive this change of role? Probably it is because they do not appreciate the difference between being a sales manager and being a salesman.

What are the functions of a sales manager which make him so radically different from a salesman?

What are the things he should be doing?

Direction. Establishing the what, how and where of the selling effort. (The manager's scope for doing this tends to be a function of company size).

Leadership. Being a mentor to his sales force, holding their respect and, generally, developing a high level of esprit de corps.

Motivation. Establishing objectives and generally a success-oriented environment.

Strategy. Using entrepreneurial flair and creative skills to the full in order to utilise all possible approaches to achieving objectives in the short, long and medium term.

Monitoring performance. Being continually in touch with present and future performance by individual salesmen and clients, and being able to anticipate in order to take early action. (This means at least one-third of his time needs to be spent in the field).

Business awareness. Being constantly aware of the difference between profitable and unprofitable business.

Education. Ensuring the development of the skills of each salesman and himself. There is no doubt some things he should not be involved with.

Supervision. He should not be rushing around attempting to close the sales his salesmen cannot handle. "All you have to do is copy me!" He must avoid the temptation of doing everything himself.

CONFERENCES

Understanding graphics

A THREE-DAY seminar entitled Understanding and Using Computer Graphics will be held in Germany, Monahan and London in September. Designed to make known the use and benefits of computer technology to both current and potential users, the seminar will give practical information on hardware, software, systems and applications. The seminar is being organised by Frost and Sullivan and will begin at the Canadian Pacific Hotel, Frankfurt, West Germany on September 10-12. Between September 15 and 17 the seminar will be held at the Loews Monte Carlo Hotel, Monte Carlo, Monaco. On September 24-26 the seminar will be held in London at the Cumberland Hotel. Further details can be obtained from Frost and Sullivan Ltd, 104-112 Marylebone Lane, London W1M 8PU.

For software executives

THE SOFTWARE Info Conference '80 is organised for executives and professionals concerned with the current and future use of packaged software. It will be held at the Hyatt Regency Hotel, Chicago. Highlights of the conference are discussions on productivity issues, software security and fraud control; applications of software in the banking, insurance and manufacturing industries; and an update on packages for minicomputers. Running concurrently with the conference will be a software exhibition organised by InfoSystems. The conference takes place from September 22-25. Details from Software Info, 1730 N. Lynn Street, Suite 400, Arlington, Virginia 22209. Tel. 0101-701821-820.

SEAS meets in Norway

THE ANNUAL meeting of the Share European Association, SEAS, will take place in the Hynfjell Hotel, Beitun, Norway on September 22-26. Further information can be obtained from SEAS HQ, Teerndyk, 6525 ED Nijmegen, The Netherlands.

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We have retained SCR to identify a Candidate who will be capable of carrying out a full marketing role including product planning, evaluation, launches and competitive strategy formulation.

The job requires interaction with many overseas subsidiaries so travel to Europe and occasionally the USA will be necessary.

Ideally you should have had product management experience or experience in the use of, or sales of computer graphics/graphics arts equipment. A working knowledge of a European language would be desirable (French or German). All Candidates should possess the following qualities: planning mentality, commercial and promotional aptitude, credibility, confidence and, above all, tenacious adherence to timescales/deadlines. Prospects are outstanding in our expanding company, so for an immediate and confidential interview telephone our Advising Consultant.

SIMON LEVER ON 01-935 0671 (24 hour answering service)
OR 021-420 1574 (evenings and weekends)

If you prefer, write to him enclosing your Curriculum Vitae. Applications will be treated in total confidence. Interviews to take place in any SCR location.

London 01-935 0671 3 Mendeville Place, Wigmore Street, London W1M 5LB
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Manchester 061-833 0427 Blackfriars House, The Personage, Manchester M3 2JA
Brussels 010 322-840 7151/71 Avenue Louise 327, Boite 4, 1060 Bruxelles

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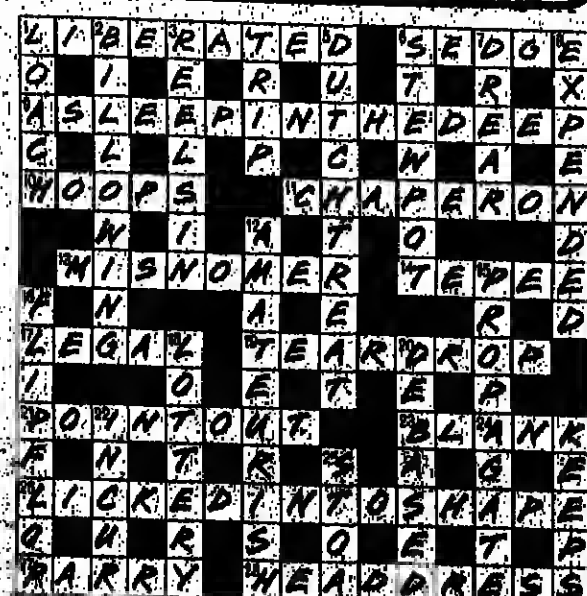
ANALYSTS & PROGRAMMERS

With COSOL, RPGII Assembler, Fortran or Basic experience. Interesting senior and junior positions. Salaries to £11K

Contact the specialist: SYSTEM OPERATOR SERVICES, 3 Ludgate Circus, London EC4.
Tel: 353 5646

(2480)

CW Prize Crossword No 7



WINNER of Computer Weekly's Prize Crossword Number 7 is Mr. H. M. Latham, of Victoria Crescent Road, Glasgow who wins £10.

Two runners-up are Mr. R. Harrigan of Woodlands Grove, Caversham, Berks and Mr. D. M. King of Childcock Hill, Coventry. They both will be getting £5 each.

Crossword Number 8 will be published on September 4. Entries should be received at CW's London office by first post on

Friday, September 12. The winners' names will be published on September 15.

Puzzle Answer

74 02 88 18
188 10 02
9 88
17204 5 88 18
6 88 18

Telecommunications Engineers

The British National Oil Corporation has rapidly become a major force in UKCS exploration and production activities and is the operator for 3 offshore either in production or under development. Effective communication throughout the Corporation's network of divisional and operational locations both in the UK and overseas is vitally important. The responsibility of providing an engineering design and advisory service in this area is borne by the Telecommunications Department.

Currently this Department has openings for Telecommunications Engineers who will supervise installations in various parts of the UK (including offshore), thus necessitating short periods away from home. In the longer term it is anticipated that they will contribute to the systems design activities of the Department.

have a full City & Guilds Telecommunications Certificate or equivalent. In addition, they must have experience of:

- *PABX Installations
- *Wideband Terminals (48 KHz)
- *Data networks
- *VF Telegraph
- *Peripheral telecommunication devices

The successful candidate will be offered an attractive remuneration package including a competitive starting salary, pension, free life assurance and a generous relocation package. Please apply in confidence enclosing a full CV and quoting the reference IG/CW to:

Senior Personnel Officer (Engineering)
The British National Oil Corporation
150 St. Vincent Street
GLASGOW G2 5LJ
Tel. 041-228 5555



The British National Oil Corporation

CONTRACT PROGRAMMER

Programmer with COBOL, BASIC experience required to work on a contract basis. The work will be completed in 3 months. Please contact: Daphne Jones

FORCE 8 Computer services
100 Wandsworth Road, Croydon CR9 3JL
01-680 3781

BOX Nos.

Box number codes should be enclosed to:

CONTRACT PROGRAMMERS

Two programmers with at least three years' Burroughs large systems Cobol experience. Immediate starting salary for circa 3 months.

Please contact: Daphne Jones

Virginia start for mini assembler programmers - to £10,000

One of the world's top ten professional services groups, with over 200 offices in more than 40 countries, has recently launched a major expansion in the U.K. The American organisation is involved in many varied computer based projects, including energy analysis, software development, micrographics, communications, transportation, urban planning, military, aviation and marine developments and property information services.

The U.K. expansion will cover many of these areas but an immediate need is to establish here an on-line information service for use by estate agents. The system, well-proven and very successful in the U.S.A. is based upon Hewlett-Packard 1000 mini computers capable of handling up to 300 terminals via telephone links. A team is being established to the West of London, near the Thames and immediately 3 Assembler Programmers with 3-5 years experience of working on mini-based communication systems are required to adapt the systems to U.K. requirements. Experience of Assembler for HP minis is not essential but competence in re-entrant coding is.

Initially, it will be necessary for them to spend up to 6 months with the organisation in Virginia to acquire the expertise, with all expenses paid and visas provided.

The team is to be housed, with other key parts of the group, in modern, convenient offices. The environment is dynamic and exciting with many other interesting developments under way - a most exhilarating group to work and grow with.

Our client's requirements are urgent, so please telephone to discuss fully, prior to arranging an initial meeting for those with suitable experience.

Please quote Ref. No. CW146-B

CAPP ASSOCIATES
01-686 9693

Computer and Professional Personnel Consultants

AMP House, Dingwall Road, CROYDON CR9 9XA

JBA

MIDLANDS

Technical Consultants

Midlands/Holland c. £12,000 + car scheme + bonus

An international organisation specialising in technical consultancy at the highest level is seeking IBM SYSTEMS SOFTWARE SPECIALISTS. Initial tasks will be in Holland but, working from a Midlands base, Consultants will be expected to undertake U.K. and international assignments. Applicants should be computer professionals with in-depth technical experience of a DBMS in an OS/VSI environment coupled, if possible, with a knowledge of IDMS and MVS. These are genuine consultancy opportunities offering well above average benefits within a first class organisation.

Contact: Roy Stevens

Sales Executive - Packages

Nottingham Based Initial Salary c. £12,000 + car

A software organisation renowned for its high quality products and expertise is seeking a sales executive to be responsible for marketing a new range of applications packages. The products are geared to the mini computer level of system and are aimed at the manufacturing distribution industries. Applicants should have a professional outlook and a sound computing background with a successful sales record preferably involving packages. Previous experience of turnkey sales, HP hardware and the manufacturing/distribution sectors is desirable but not essential.

Contact: Roy Stevens

Senior Analyst - Financial Systems

Rugby c. £9,000

Our client is an engineering organisation forming part of an international group. Current plans involve comprehensive new systems development for the financial and accounting functions and a Senior Systems Analyst is now being sought. Applicants should have at least 5 years computing experience with emphasis on the design and development of accounting systems. A knowledge of a medium sized IBM main frame environment would be an advantage but the applications 'know-how' is much more important.

Contact: Roy Stevens

North Birmingham

This computer services division of a large and well known international engineering group have achieved a high level of computerisation over past years. They have recently embarked on a phase of development aimed at fully utilising current dp practices and technology in order to maintain an effective service. Vacancies exist for:

Systems Development Manager

c. £9,500 + car

Applicants should ideally be holding a similar position but those having several years experience at a senior systems level, coupled with preferably past programming involvement, and essentially current responsibility for man-management, will receive serious consideration.

Systems Project Leader

c. £7,500

At least 5 years systems analysts experience with a bias towards the financial areas and the ability to accept fully project leader responsibilities are a main requirement.

Systems Programmer

c. £7,500

A vacancy exists in the technical support section for a systems programmer. Applicants should have 2 years experience with communications involving mainframe, preferably but not essentially gained in a Univac series 80 OS3 environment.

Contact: Mike Galtbell

JAMES BAKER ASSOCIATES, International Personnel Consultants
Gateway House, 50 High Street, Birmingham B4 7SY. Tel: 021-643 7965.